

ABSTRACT

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A method and apparatus for temperature compensation of a resistive based Read-Only Memory device is disclosed. In accordance with the method of the invention, the input voltage supplied to ROM device is adjusted in response to changes in temperature to maintain the current through the ROM at a substantially constant level even as the resistivity of the temperature-dependent connection resistors changes. In one embodiment of the invention, the voltage across the reference resistor is determined by providing a constant current source to the reference resistor and this voltage level is applied to the input of the ROM device. The reference resistor is selected to have similar properties of conductivity as those of the data resistor, for example, a polysilicon. As the temperature increases, the resistivity of a polysilicon data resistor and resistor decrease in a similar manner and, accordingly, the voltage across the reference resistor also decreases. The voltage across the reference resistor decreases at a rate commensurate with a decreased voltage drop across the data resistor, thus maintaining the current through a selected data resistor constant.